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MARGARET O. BONISTEEL

PROCEEDINGS OF THE CLUB

MINUTES OF THE MEETING ON FEBRUARY 4, 1941

The meeting was called to order at the American Museum of Natural History by the President, Dr. John S. Karling, at 8:15 P.M.

Fifty-two members and guests were present.

The minutes of the previous meeting were approved as read.

It was voted that the Secretary admit the following by unanimous ballot to membership in the Club: As annual members: Mrs. Roy A. Hunt, 4875 Ellsworth Ave., Pittsburgh, Pa.; Dr. Ernst C. Abbe, Dept. Botany, Univ. Minnesota, Minneapolis, Minn.; Mr. Willy Ley, 304 W. 24th St., New York, N. Y.; Dr. Angel L. Cabrera, Museo de La Plata, Argentina; Miss Lena Bondurant Henderson, Randolph-Macon Woman's College, Lynchburg, Va.; Dr. F. C. Hoehne, Rua Theodoro Sampaio, no. 632, Sao Paulo, Brazil; Rev. Dr. Theodore C. Petersen, St. Paul's College, Brookland, Washington, D. C.; Dr. Clifton C. Doak, Box B—F. E., A. & M. College of Texas, College Station, Tex.;

Mr. Don E. Eyles, Box 547, Savannah, Ga.; Miss Margaret Kenup, Smith College, Northampton, Mass.; Miss Leonora H. Pugh, 163 Madison Ave., Elizabeth, N. J.; Dr. Walter Conrad Muenscher, 1001 Highland Rd., Ithaca, N. Y.; Dr. G. Steiner, Bureau of Plant Industry, U. S. D. A., Washington, D. C.; Dr. Margaret Fulford, Dept. Botany, Univ. Cincinnati, Cincinnati, Ohio; and Miss Ethel Welti, Box 924, New Jersey College, New Brunswick, N. J. As associate members: Mr. Alberto M. Brenes, San Ramon, Costa Rica; Mrs. R. A. Wetzel, 218 Tecumseh Ave., Mount Vernon, N. Y.; Miss Ethel M. Gray, 180 Whitney Ave., Pompton Lakes, N. J.; Mr. James M. Labaugh, 80 Haledon Ave., Paterson, N. J.; Miss Dorothy Moody Brown, 419 W. 114th St., New York, N. Y.; Mrs. John W. Radu, 319 E. 17th St., New York, N. Y.; and Mrs. Charles H. Drews, 15 Brainerd St., Upper Montclair, N. J. By transfer of membership from annual to associate: Miss Viola Richtberg, 2305 Andrews Ave., Bronx, N. Y.; and Dr. Leon Hervey, 2121 Grand Concourse, Bronx, N. Y. By transfer of membership from associate to annual: Mrs. Leon Hervey, 2121 Grand Concourse, Bronx, N. Y.

The resignations of Mrs. Kathleen Goddard Shirazi, c/o Parvaz, 34 E. 64th St., New York, N. Y., and Miss Grace Kelly, 539 W. 156th St., New York, N. Y., from associate membership; and Mr. Paul F. Frese, 70 E. 45th St., New York, N. Y.; Miss Beatrice Scally, 244 Glenwood Ave., East Orange, N. J.; Mrs. Cecil Yampolski, 230 Franklin Ave., Grantwood, N. J.; Mr. George Schwartz, 8447 118th St., Richmond Hill, S. I., N. Y.; Dr. Kenneth B. Raper, U. S. D. A., Northern Regional Research Lab., Peoria, Ill.; Mr. Frederick J. Hermann, Division of Plant Exploration and Introduction, Bureau of Plant Industry, U. S. D. A., Washington, D. C.; and Dr. Norwood C. Thornton, Boyce Thompson Institute, 1086 N. Broadway, Yonkers, N. Y., from annual membership were accepted with regret.

With deep regret Dr. Moldenke announced the death of Mr. A. D. Kalmykov, associate member of the Club since 1939; and Miss Zaida Nicholson, member of the Club from 1923 to 1938. Dr. Moldenke read the following brief obituaries:

It is with deep and genuine regret and sorrow that I announce to the Club the death of two of our very respected friends and members, who will be greatly missed.

The first death which I must report is that of Miss Zaida Nicholson, who was an annual member of the Club from 1923 to 1938. Miss Nicholson was one of our most enthusiastic and faithful field members, in spite of her advanced age. A graduate of Packer Collegiate Institute in Brooklyn and for some time a resident of Paris, France, she was greatly interested also in the theater. In her youth she saw the great Booth act and practically every great actor since that time. During her latter years it became increasingly difficult for her to maintain the pace that most leaders of field trips required. But this never discouraged her. Although she invariably fell behind the group, often to a considerable distance, this never diminished her enthusiasm. Three times she fell on Torrey Club trips and broke a limb, but not even this could discourage her. Some of the more thoughtless leaders sometimes felt a bit annoyed at her persistence, but I feel sure that I speak for them as well as for all the field members of the Club when I say that we are all greatly saddened at the thought of her death. In the summer of 1939 she underwent a serious operation in St. Luke's Hospital here in the city; miraculously, in spite of her very advanced age, pulled through and only last year told us that she hoped to be able to come out on Torrey Club trips again soon. Last September she died very suddenly from the effects of a cerebral hemorrhage. We are all saddened to think that we shall not see Zaida Nicholson any more on our trips, but I know that she will be there with us, probably on every trip, and now she will once again be able to keep up with the leader at all times.

The second death which I must report is that of Mr. Andrew D. Kalmykov, an associate member of the Club since 1939. Mr. Kalmykov was a former diplomat of Imperial Russia and died at his home here in the city last week, after a short illness, at the age of seventy. As secretary of the Russian legation at Bangkok in 1898 he mediated a dispute between the Siamese and French Indo-China governments. A frontier settlement which he suggested lasted until recent months and he was instrumental in the defense of Thailand. In 1912 when a defeated Turkish army evacuated Uskub in Turkish Macedonia during the first Balkan war, Mr. Kalmykov took charge of the city for three days and prevented the massacre of the Christian population by enraged Moslems. For his work there the French Government made him a member of the Legion of Honor. During the first World War he was observer in the Dardanelles for his government. He came to America in 1923. He was a distinguished student of foreign affairs and orientalism and published a number of papers in these fields. He was an enthusiastic student also of Nature, both plants and animals, and it was always a great honor and pleasure to have him on our field trips. He will be greatly missed by us all.

It was moved by Dr. Moldenke, seconded by Dr. Graves, and voted by the Club that the Recording Secretary be instructed to draw up letters of sympathy to be sent to the surviving members of the families of Miss Nicholson and Mr. Kalmykov on the behalf of the Club.

The President announced that due to a tied vote during the last election for a vacancy on the council, another ballot was necessary. The council had nominated R. P. Wodehouse, James Murphy and Clyde Chandler. Ballots were distributed and collected for counting.

The President announced that the appointment of the standing committee for 1941 had been approved by the council and that the lists of committee members would appear in *TORREYA*. He added that the chairman of the entertainment committee would accept donations for the entertainment fund.

Dr. Fred Seaver of the New York Botanical Garden gave a lecture in the scientific part of the program on "A Mycologist in Bermuda." Dr. Seaver stated that the Kodachrome pictures which he showed were his first attempts with that film; but he had a remarkably beautiful series of scenes of Bermuda and life on Bermuda. The most conspicuous blossoms were the Bouganvillea and the Hibiscus. Dr. Seaver also had photographs of the endemic *Sabal Bermudiana* and *Juniperus Bermudiana*.

Because the votes cast had resulted in a tie between Mr. Murphy and Dr. Chandler, a third set of ballots was distributed. On the third ballot Dr. Chandler was declared elected to the vacancy on the council. The meeting was adjourned at 9:45 P.M.

Respectfully submitted,

JOHN W. THOMSON, JR.

MINUTES OF THE MEETING ON FEBRUARY 19, 1941

The meeting was called to order at 3:35 P.M. at the New York Botanical Garden by the President, Dr. J. S. Karling. Twenty-five members and guests of the Club were present.

The minutes of the previous meeting were approved with correction.

Dr. Robbins moved, Dr. Bold seconded the motion and the Club voted that the Secretary admit the following by unanimous ballot to membership in the Club: As annual members: Dr. Samuel Hoffman Derickson, Lebanon Valley College, Annville, Pa.; Miss Hilda E. Aboy Buso, University of Puerto Rico, Rio Piedras, Puerto Rico; Mr. Clifford H. Meredith, Glenleigh Laboratory, Highgate, Jamaica, West Indies; and Miss Frances Fenton, Tar

Rock Rd., Saugatuck, Conn. As associate member: Mrs. Leon A. Hausman, 259 Harrison Ave., New Brunswick, N. J.

The transfer of Miss Alexandria Kalmykov from associate to annual membership was approved.

The resignations of Mr. Harry Sverdlick, 144-32 Liberty Ave., Jamaica, N. Y.; Miss Ruth V. Schmidt, 2929 N. Prospect Ave., Milwaukee, Wis.; Mr. Walter Jones, Plant Pathology Laboratory, Saanichton, B. C., Canada; Dr. Forman T. McLean, Oneco, Fla.; Miss Natalie Hettger, 214 Division Ave., Hasbrouck Heights, N. J.; and Dr. Clifford Leonard, Burlington, Vt., from annual membership were accepted with regret.

The report of Dr. Graves, chairman of the auditing committee, stating that the books of the Treasurer had been examined and found in order by the committee, was read by the President. Dr. Dodge moved the report be accepted and that a very brief statement of the financial standing of the Club be submitted by the Treasurer for publication in *TORREYA*. Dr. Camp seconded the motion and the Club so voted.

The scientific part of the program consisted of two lectures on the results of research. The first by Mr. Thomas Laskaris of the New York Botanical Garden was on the "Delphinium Crown Rot Complex." The speaker's abstract follows:

The most destructive disease of perennial delphiniums is crown rot or "black rot." The term crown rot as used here refers to a symptom complex of which the death and decay of the crown and roots, and the wilting, yellowing or general blight of the aerial parts of the plants are conspicuous features.

Crown rot may result from one of several causes which may be grouped into: (1) cultural defects and (2) parasitic fungi and bacteria. The relation of cultural defects such as faulty drainage, soil deficiencies, over-feeding, too warm an exposure, etc., to the incidence of delphinium crown rot is well known. Familiar also, as parasitic causes of delphinium crown rot, are the widely parasitic fungi, *Sclerotium delphinii*, and its related form *S. rolfsii*, the fungus *Rhizoctonia solani* and a bacterium of the common soft-rot group.

A recent study made by the speaker under the sponsorship of the American Delphinium Society and carried on at the New York Botanical Garden, has shown that several other fungi are important causes of delphinium crown rot. Most prevalent of these is a species of *Diplodia*, a pycnidial fungus previously unrecorded on delphinium. This fungus, in addition to crown rot has been found capable of producing a stem canker, local necrosis and leaf spot. Important also are two little-known delphinium diseases, *Fusarium* stem canker and *Fusarium* wilt. The present study is the first to definitely establish the causal relationship of *Fusarium* to these diseases. It is indicated

further that the same *Fusarium* species (to be described as a new form of *Fusarium oxysporum*) is capable of producing both the stem canker and wilt diseases, a relationship previously unsuspected. Considerable crown, root and stem rot of greenhouse and field-grown plants was caused by *Pythium ultimum*, a new disease of perennial delphiniums. Data have been obtained which make possible a better evaluation of the importance of the fungi and bacteria involved in the delphinium crown rot complex.

The second lecture by Dr. R. H. Burris, National Research Council Fellow in the Department of Botany, Columbia University, was on "Isotopic Tracers in Biology." The speaker's abstract follows:

The use of radioactive elements and stable isotopes as tracers has been readily accepted as a promising new approach in the study of biological processes. The general principles of tracing compounds by the incorporation of radioactive atoms or stable atoms of "abnormal" mass, and the determination of radioactivity by the Geiger counter and mass distribution by the mass spectrometer were discussed.

The stable isotopes of C, N, O, H and S have been concentrated sufficiently for use as tracers. Among the radioactive isotopes P, Na, K, As, Fe, Cu and S, have proved especially useful. The short half lives of radioactive C and N limit their applicability.

Illustrative examples of the application of the stable N^{15} isotope to problems in biological nitrogen fixation were cited, and the manner of checking for non-specific exchange reactions was outlined.

The meeting was adjourned at 4:40 P.M. to enjoy the tea served by the entertainment committee.

Respectfully submitted,

JOHN W. THOMSON, JR.
Recording Secretary

MINUTES OF THE MEETING ON MARCH 4, 1941

The meeting was called to order at 8:15 P.M. at the American Museum of Natural History by the President, Dr. J. S. Karling. Eighty-six members and guests of the Club were present.

The minutes of the previous meeting were approved as read.

Dr. Bold moved, Dr. Bonisteel seconded the motion and the Club voted that the following be admitted by unanimous ballot to membership in the Club: as annual members, Mrs. Wanda K. Farr, American Cyanamid Co., Stamford, Conn.; as associate member, Mrs. Fitz-Henry Paine, Breeze Hill, Abington, Conn.

The resignation of Miss Margaret A. Griffin, 131 Erie Ave., Midland Park, N. J., and Dr. Raymond H. Wallace, Connecticut Agricultural College, Storrs, Conn., were accepted with regret.

Dr. Bold read a letter from Mr. Schuyler Miller of the New York Trails Conference stating that a bill was before the New York State Legislature to permit the construction of a ski trail 80 feet in width and 20 miles long on Whiteface Mountain in the Adirondacks. Dr. Bold moved that the following resolution be adopted by the Club:

Be it resolved that the Torrey Botanical Club heartily approves the action of the New York Trails Conference under date of August 18, 1940, in registering the unanimous disapproval of its membership concerning the proposed amendment to Section one, Article fourteen of the New York State Constitution. This amendment (at present pending as Assembly Bill 30 and Senate Bill 25), if adopted would permit the construction of ski trails 80 feet in width and totaling 20 miles in length on Whiteface Mountain, Essex County, New York. Such inroads on the natural forest vegetation of the mountain would initiate erosion and the serious consequences it entails. The Torrey Botanical Club, therefore, strongly urges that the proposed amendment be defeated.

After discussion of the motion, Dr. Bonisteel seconded the motion and the Club voted that the resolution be adopted.

The President stated that the officers had regretted not being able to personally introduce new members to the Club. The Receiving Committee had called his attention to the fact that three members who had joined the Club in recent years were present. He asked Mr. George H. Peters, Miss Ethelwyn Doolittle and Mrs. Herbert Lawrence to rise, and introduced them to the Club.

The scientific part of the program consisted of a talk on "The Vegetation of the Great Smoky Mountains" by Dr. Stanley A. Cain of the University of Tennessee. The speaker's abstract follows:

One hundred Kodachrome slides were used to illustrate some of the more interesting aspects of the flora of the Great Smoky Mountains. Plants of taxonomic or geographic interest were selected to show that the vegetation of the region has had a long and varied history. Some of the more striking affinities of the mountain plants of the Smokies are with Japan and other eastern Asiatic places, with Europe, with the tropics of America, and with the Canadian coniferous forest. Especial attention was given to the Ericales which are represented in the Smokies by a large series of species. An hybrid Azalea complex from Gregory's Bald Mountain was shown with evidence for the intermingling of three parent species: *Azalea calendulacea*, *A. arborescens* var. *Richardsoni*, and the newly described species, *A. cumberlandense*.

During the discussion following the lecture, Dr. Camp enlarged upon the distribution of the Azaleas and their derivative hybrids.

The meeting was adjourned at 9:30 P.M.

Respectfully submitted,

JOHN W. THOMSON, JR.
Recording Secretary

MINUTES OF THE MEETING ON MARCH 19, 1941

The meeting was called to order at 3:30 P.M. by the President, Dr. Karling, at the New York Botanical Garden. Thirty-one members and friends were present.

The minutes of the previous meeting were accepted as read.

Dr. Rickett moved, Dr. Bold seconded the motion and the Club voted that the following be admitted by unanimous ballot to membership in the Club: as annual members, Miss Margaret A. Griffin, 131 Erie Avenue, Midland Park, N. J.; Mr. Walter E. Thwing Chestnut Hill, R. F. D. No. 1, Norwalk, Conn.; Miss G. Elizabeth Ashwell, 444 East 66th St., New York, N. Y.; Mrs. Margaret Heatley Moss, Botany Dept., University, Milner Park, Johannesburg, Union of South Africa; and Mr. J. D. Quackenbush, 608 Lincoln Ave., Hawthorne, N. J.; as associate members, Mr. Ernest Walter, 166 North Mountain Ave., Montclair, N. J.; and Mr. Reiman G. Erwin, 99 Hillside Ave., Mt. Vernon, N. Y.

The following resignations were accepted with regret: from annual membership, Miss Edna Lind, The University, Sheffield, England, and Dr. C. E. B. Bremenkamp, Ostadelaan 14, Bilthoven, Netherlands; from associate membership, Mr. Samuel Bender, 421 East 21st St., Brooklyn, N. Y., and Miss Blanche C. Mayhew, 144 South Second Ave., Mt. Vernon, N. Y.

Dr. Rickett proposed the following amendment to the Constitution: "To Article XIII, after "Index Cards," add the words "and the Memoirs."

In accordance with the Constitution, the proposed amendment was referred to the Council.

The scientific part of the program consisted of a talk by Dr. F. E. Denny of the Boyce Thompson Institute for Plant Research on "Main points and some side issues in attempts to influence the rest period of buds of plants." The speaker's abstract follows:

The topics dealt with were: The use of chemicals in hastening the germination of dormant buds such as those of tubers, bulbs and woody plants; the effect of such treatments upon the respiration, enzyme activity and chemical composition of the plants; the application of these results to certain agricultural practices, a particular instance being that of testing potato tubers for the presence of disease in the interval between harvest in autumn and planting time in the following spring.

The reverse problem, that of inhibiting growth, inducing or prolonging dormancy of buds, especially with potato tubers and gladiolus corms, was shown to have a partial or complete solution, either by the conditions of storage (with gladiolus), or by chemical treatment (as shown by the experiments of J. D. Guthrie with potato tubers).

A discussion was given of the results obtained by L. P. Miller showing that glucosides were formed in the tissues of potato tubers and gladiolus corms, as a result of treatment with ethylene chlorhydrin, by what appears to be a detoxication mechanism, and that with other tissues and other chemicals the product formed is a glycoside in which the sugar constituent is not glucose but is the rather rare sugar gentiobiose.

Finally, attention was directed to the effects of short periods of chilling, 6-24 hours at 0°-5°, in inducing germination of gladiolus corms the dormancy of which had been prolonged for 1-2 years by the conditions of storage, and to the periodic type of respiration rate which may be obtained with the corms, after these long periods of dormancy, by merely alternately removing the corms from the soil and returning them to it.

The meeting was adjourned at 4:45 P.M. to enjoy the tea served by the Entertainment Committee and the New York Botanical Garden staff.

Respectfully submitted,

JOHN W. THOMSON, JR.
Recording Secretary

MINUTES OF THE MEETING OF APRIL 1, 1941

The meeting was called to order by the President, Dr. J. S. Karling, at the American Museum of Natural History at 8:15 P.M. Fifty-one members and friends were present.

The minutes of the previous meeting were accepted as read.

It was voted that the following be admitted by unanimous ballot to membership in the Club: as annual members, Dr. M. M. Rhoades, Dept. Botany, Columbia University, New York, N. Y.; Mr. Calvin G. Bliss, 95 Chambers St., New York, N. Y.; Dr. Lauretta Fox, Louisiana State Normal College, Natchitoches, La.; and Mr. V. Eugene Vivian, 190 Carrol St., Paterson, N. Y.; and as associate member, Dr. John R. Mee, 208 Elton St., Brooklyn, N. Y.

The President announced the appointment of the following to serve on the Seventy-fifth Anniversary Celebration Committee: Dr. A. B. Stout, New York Botanical Garden; Dr. H. C. Bold, Barnard College, Corresponding Secretary; Dr. A. H. Graves, Brooklyn Botanical Garden; Dr. P. W. Zimmerman, Boyce Thompson Institute; Dr. Ralph Cheney, Long Island University; Dr. S. F. Trelease, Columbia University; Dr. B. O. Dodge, New York Botanical Garden; Dr. John A. Small, New Jersey College for Women, Rutgers University; Dr. J. M. Fogg, University Pennsylvania; Dr. L. O. Kunkel, Rockefeller Institute for Medical Research; Dr. J. J. Copeland, City College of New York; Dr. H. H. Clum, Hunter College; and Dr. E. W. Sinnott, Yale University.

Dr. Small reported an interesting itinerary through New England planned by the Field Committee for the summer meetings with the American Botanical Society.

The President welcomed the members of several out of town institutions who were present for the meeting.

The scientific part of the program consisted of a talk by Professor Fredda D. Reed of Mt. Holyoke College on "Fossil Plants from the American Coal Fields." The speaker's abstract follows:

Carboniferous plant remains fall in to general categories: (1) Impressions, casts and molds, which show the superficial characters of form and size and make possible the reconstruction of the habit of the plant; and, (2) Petrifications or "coal balls," fossils with cellular structure preserved revealing the anatomical and morphological features. Reconstructions of the dominant genera of the five orders, *Articulatales*, *Lepidodendrales*, *Filicales*, *Cycadofilicales*, and *Cordaitales*, together with selected structural details of vegetative and reproductive organs of each were illustrated.

The meeting was adjourned at 9:30 P.M.

Respectfully submitted,

JOHN W. THOMSON, JR.
Recording Secretary

MINUTES OF THE MEETING ON APRIL 16, 1941

The meeting was called to order by the President Dr. J. S. Karling, at 3:30 P.M. at the New York Botanical Garden. Twenty-seven members and friends were present.

The minutes of the previous meeting were adopted as read.

It was voted that the following be admitted by unanimous ballot to membership in the Club: as associate members, Mrs. Virginia G.

Richards, 153 East 31st St., New York, N. Y., and Miss Gladys E. Broun, 1701 Drummond Ct., Asbury Park, N. J.; and as annual members, Dr. Carl Epling, 372 S. Carmelina Ave., Los Angeles, Calif.

Dr. Bold announced that the meeting on May 6 would be held at Columbia University, and the meeting on May 21 would be held at the Boyce Thompson Institute for Plant Research in Yonkers, N. Y.

Dr. Dodge moved that the Treasurer be authorized to execute the documents from Lord, Day and Lord, attorneys, to receive for the Club the sum of \$850.00 from the estate of Nathaniel Lord Britton. Dr. Camp seconded the motion, and the Club so voted.

Dr. Karling announced that since the Academy Bulletin for May had gone to press the amendment to Article III of the Constitution proposed by Dr. Ricket would be printed in the fall.

The scientific part of the program consisted of a talk by Dr. Charles A. Berger, S.J., of Fordham University, on Polysomaty in *Spinacia*. The speaker's abstract follows:

A critical summary of the work on Polysomaty in *Spinacia* was first presented. The different degrees of polyploidy found in the cells of the root tip periblem are probably the result of double chromosome reproduction in the resting nucleus. Metaphases showing closely paired chromosomes indicate that the chromosome reproductions occurred in the preceding resting stage, when no pairing is evident one or more divisions have intervened since the coupling process. The relation of the study of Polysomaty to problems of cell size, cell division and chromosome reproduction were discussed.

The meeting was adjourned at 4:30 P.M. to enjoy the tea served by the Entertainment Committee and the New York Botanical Garden staff.

Respectfully submitted,

JOHN W. THOMSON, JR.
Recording Secretary

MINUTES OF THE MEETING OF MAY 6, 1941

The meeting was called to order by the Vice-President, Dr. E. B. Matzke, at 8:20 P.M. at Columbia University. Forty members and friends of the Club were present.

The minutes of the previous meeting were adopted as read.

It was voted that the following be admitted by unanimous ballot to membership in the Club: as annual member, Professor Guil-

lermo Ebel, Director Biology Department, Colegio San Ignacio, Casilla 597, Santiago, Chile; as associate members, Mr. Robert Marks, 91 Pitt St., New York, N. Y.; Dr. Bernard A. Friedman, 2284 Nameoke Ave., Far Rockaway, N. Y.; and Mr. Jerome Metzner, 600 West 218th St., New York, N. Y.

The resignation of Mrs. Richard Fondille, 119 West 71st St., New York, N. Y., from annual membership was accepted with regret.

The death of Mr. Adolph Henning, 421 Hillside Pl., South Orange, N. J., associate member of the Club since 1939 was announced with deep regret. It was voted that a letter expressing the deep regret and sympathy of the Club be sent by the Corresponding Secretary to the surviving members of the family of Mr. Henning.

The scientific part of the program consisted of a talk by Professor M. A. Chrysler of Rutgers University on "Botanical Explorations in Costa Rica." The speaker's abstract follows:

This trip was undertaken chiefly in order to secure preserved material of the tropical fern family Gleicheniaceae. Dr. W. E. Roever was the other member of the party, and acted as photographer. After a two-week stop in Jamaica a week was spent at the laboratory on Barro Colorado Island, Canal Zone, where the excellent arrangements gave an opportunity for getting acquainted with the vegetation of low altitudes.

Proceeding to Costa Rica, the little city of San José, situated at an altitude of 3,800 feet, formed a particularly pleasant spot for headquarters during July and August, while Varra Blanca and El General were used as temporary bases. Both of these villages presented interesting examples of primitive living conditions, the first in a rather chilly dairying region at an altitude of 6,000 feet, and the other in a bean growing region at 2,200 feet. Shorter excursions were made to the crater of Volcan Poas (9,000 feet) and other localities chosen by the director of the National Museum. The astonishing epiphytic vegetation of these regions, consisting chiefly of ferns and orchids, together with clambering ericads and melastomes, was briefly described by the speaker. Specimens of a few plants from the collection of over 1,100 sheets were shown, also kodachrome views were exhibited.

The meeting adjourned at 9:30 P.M. to enjoy the tea served by the members of staff of Columbia University.

Respectfully submitted,

JOHN W. THOMSON, JR.
Recording Secretary
